

CLAIMS

1. A stable, aqueous-aqueous emulsion comprising
 - (1) a dispersed aqueous phase comprising a molecule or combination of molecules meeting the following criteria:
 - (a) water stability of greater than 5%; and
 - (b) MW > about 200 and < about 200,000; and
 - (2) a continuous phase comprising surfactant or surfactant system having micelles in rod-like shape,

wherein rod-like is defined by a surfactant parameter of surfactant or surfactants forming the micelle, N_s , of about $1/3 - 1/2$, where N_s is defined by the equation:

$$N_s = V / la_o$$

where

 - V = volume of the hydrophobic portion of the surfactant volume;
 - l = the length of the hydrocarbon chains of the surfactant; and
 - a_o = effective area for head group.
2. An emulsion according to claim 1, wherein molecule or combination of molecules in dispersed phase has solubility in water > 10%.
3. An emulsion according to claim 1, wherein molecule or combination of molecules in dispersed phase has solubility in water > 15%.
4. An emulsion according to claim 1, wherein molecule or combination of molecules in dispersed phase has MW > 250.

5. An emulsion according to claim 1, wherein molecule or combination of molecules in dispersed phase has MW < 195,000.
6. An emulsion according to claim 1, wherein surfactant system of continuous phase comprises alkali metal ether sulfate and cocoamidopropyl betaine.
7. An emulsion according to claim 1, wherein the ratio of alkali metal ether sulfate to betaine is about 2:1.
8. An emulsion according to claim 1, wherein the surfactant system of continuous phase comprises a surfactant blend comprising anionic and cocomonoethanolamide (CMEA) in combination with betaine.
9. An emulsion according to claim 1, wherein the blend is used in ratio of alkali metal ether sulfate to betaine of about 4:1.
10. An emulsion according to claim 1, wherein the molecules in dispersed phase are maltodextrins (MW 500-5000) such as MD 180.
11. An emulsion according to claim 1, wherein the molecule in dispersed phase is PVP of MW about 7,000.

12. An emulsion according to claim 1, wherein the molecule in dispersed phase is dextran of MW about 70,000.

13. An emulsion according to claim 1, wherein the molecule in dispersed phase is PEG of MW about 1000.

14. An emulsion according to claim 1, additionally comprising salt.

15. An emulsion according to claim 1, additionally comprising glycerin.

16. A process for forming a stable aqueous-aqueous emulsion which process comprises adding to surfactant or surfactant system having surfactant parameter of the surfactant or surfactants, N_s , of about $1/3 - 1/2$, wherein N_s is defined by the equation:

$$N_s = V / la_o$$

where

V = volume of the hydrophobic portion of the surfactant volume;

l = the length of the hydrocarbon chains of the surfactant; and

a_o = effective area for head group,

a molecule meeting the following criteria:

- (a) water soluble of greater than 5%; and
- (b) MW > about 200 and < about 200,000.